

Work Order ID 69451

Wednesday, May 11, 2011 10:33:22 AM



Page 1

Item ID: D206-642-541

Accept



Setup Start



Revision ID:

Stop



Item Name: Replacement Skidtube

Start Date: 5/11/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 6/6/2011 Req'd Qty: 1.00



Customer:

Reference:

Approvals:

Process Plan:

Date: 11-05-11

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run Start



Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

Draw Nbr

Revision Nbr

D3274

D

IIN-D206-642

Rev M

100

0.00



DC

DOCUMENT CONTROL

Memo

0.00

Document Control

Photocopy bluefile & type labels per PPP D206-642-541

CHG003

N/A CK 11/03/12

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

110

0.00



Skidtubes

Skidtubes

Memo

0.00

Skidtubes

VERIFY AND INSPECT THE MATERIAL PRIOR TO USE

1- Bend FWD end of tube using bend prog D3274 FWD and foil 10 as per dwg D3274, cut fwd end of tube with saw table setup D3274.

DP 11-5-260

2- remove fwd indexing ridge as per dwg D3274. Prepare for welding

3- weld fwd cap as per dwg D3274 and QSI004

AR Aluminum Rod Batch:

M112860/M117456

BE 11/06/06

4- grind fwd cap weld on top surface only

BE 11/06/06

5- Cut AFT end of tube at 170.9" as per dwg D3274 and deburr end.

6-Drill Aft cap pilot hole using DT8025

7 -Cleco DT8025 in position and install pilot hole drill Jig DT8742A,B,C,D.
Drill 3/16" pilot holes as per Dwg D3274

BB

11/06/13

8 -Remove inner indexing ridge on aft end of skidtube as per Dwg D3274 scribe batch #

9 -Open aft end cap holes to Ø0.208" as per Dwg D3274. Deburr aft end.

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Date:

QC:

Date:

SPC (Y/N):

Date:

Run

Start

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

114

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

8 u/06/14

116

QC10- Inspect visual per QSI004- ground welds

0.00



QC

Memo

0.00

Quality Control

8 u/06/14

120

Chemical Conversion Coat per QSI005 4.1

0.00



HandFinish

Memo

0.00

Hand Finishing

①

B4/06/14

W/O:		WORK ORDER CHANGES					
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Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	QC3- Inspect Part Finish	0.00							
QC	Memo	0.00				1	0	BE1/08/09	
Quality Control									
150	Skidtubes	0.00							
Skidtubes	Memo	0.00							
Skidtubes	1-Open Ø0.313" and 0.375" crossbolt spacer holes as per Dwg D3274								
	2-Deburr crossbolt spacer holes as per Dwg D3274 and blow out chips from inside the tube								
	3-Bond web in place as per Dwg D3274 & QSI 015.								
	A/R <input type="checkbox"/> Sikaflex-291 <input type="checkbox"/> 11/5/10 <input type="checkbox"/> <input type="checkbox"/>								
	Sikaflex expire date: <input type="checkbox"/> 12/01/15 <input type="checkbox"/>								
	Start: <input type="checkbox"/> 11/08/09 Time: <input type="checkbox"/> 4:00 <input type="checkbox"/>								
	Finish: <input type="checkbox"/> 11/08/10 Time: <input type="checkbox"/> 7:30 <input type="checkbox"/>								
	(Adhere for 12 hours)								

B 11/08/09

W/O:		WORK ORDER CHANGES					
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Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160 	QC5- Inspect part completeness to step on W/O	0.00				1	0		BE 11/08/10
QC Quality Control	Memo	0.00							
170 	Skidtubes	0.00							
Skidtubes Skidtubes	Memo 1-Bend AFT end of tube using bend prog. D3274 AFT as per dwg D3274. Install drop pins in crossbolt spacer holes to maintain web position. 2- DRILL PILOT HOLES FOR WEARPLATES USING D3274-1T2 OPEN HOLES TO .297" . Deburr 3-DRILL TOE PIN HOLE .640" DIA AS PER DWG USING DT8935 FWD END OF TUBE DEBURR INSIDE OF HOLE AS NECESSARY (DO NOT ENLARGE HOLES) REMOVE ANY FOREIGN OBJECTS INSIDE OF TUBES 4- Countersink crossbolt spacer holes as per Dwg D3274 5- prepare for welding	0.00							BE 11/08/10 BE 11/08/10 BE 11/08/10

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Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID Tool # Plan

Code

Accept
QtyReject
QtyReject
NumberInsp.
Stamp

180



QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

11-8-10

Memo

0.00

190



Skidtubes

Skidtubes

Skidtubes

Memo

0.00

1-Insert D2649 & D3275-1 crossbolt spacers. Weld as per QSI 004 and Dwg D3274. Remember to back drill each hole before welding the other side. Use aluminum rod

A/R ☐ Aluminum Rod ☒ M112860 BE 11/08/10

3-Grind cross bolt welds flush as per Dwg D3274.

4-Counterbore 5/16" x 0.750" deep as per Dwg D3274 and deburr.

11/08/10
BE 11/08/10

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Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

200

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

8/11/08/10

Quality Control

210

QC10- Inspect visual per QSI004- ground welds

0.00



QC

Memo

0.00

8/11/08/10

XC

Quality Control

220

Pressure Wash per QSI005 4.3

0.00



HandFinish

Memo

0.00

Hand Finishing

Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch

IX 10/11/08/10

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Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

230



Powdercoat

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00

Memo

0.00

START TIME: 8:15 AM
OVEN TEMPERATURE: 320° F
FINISH TIME: 9:45 AM

1 X Ø M 4/10/08/11

Powder Coating

240



QC

QC3- Inspect Part Finish

0.00

Memo

0.00

Quality Control

1X Ø M 4/10/08/11

250



HandFinish

HandFinishing

0.00

Memo

0.00

1-Install Nut Plate as per Dwg D3274. Apply LPS-3 to Nut Plate and rivets.

A/R ☐ N/A ☐ LPS-3 ☐

2-Install inserts as per Dwg D3274. Use a drop of Sikaflex inside insert holes a

A/R ☐ ☐ Sikaflex-291 ☐Sikaflex expire date: ☐

M109956

M117816

01/15

1X Ø M 4/10/08/11

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start



Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

260



QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

Memo

Inspect Nut Plate & Inserts

0.00

S wlosly

(40)

270



HandFinish

Hand Finishing

HAND FINISHING RESOURCE #1

0.00

Memo

1-Install wearpads & gaskets as per Dwg D3274.

0.00

2-Install ring as per Dwg D3274

A/R ☐ Sikaflex-291 ☐Sikaflex expire date: ☐

3-Inspect for foreign objects as per QSI 024

4-Spray inside of tube on both sides of web with LPS-3

A/R LPS-3 Batch: ☐

5-Install Aft Cap and seal with Sikaflex. Clean excess adhesive.

A/R ☐ Sikaflex-291 ☐Sikaflex expire date: ☐M117 516
01/15N/A
M117 516
01/15

IX Ø m-f w/08/16

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Approvals:

Process Plan:

Date:

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run Start

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

280

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

290

Identify as per dwg & Stock Location:

0.00



Packaging

Memo

0.00

Packaging

300

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control



8 11/08/14

10

P4481 20

CK 11/08/12

MF
11-08-12

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Picklist Print

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Parent Item: D206-642-541

Parent Item Name: Replacement Skidtube

Start Date: 5/11/2011

Required Date: 6/6/2011

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev:B 05.09.23 Revised per D206-642 Rev. J KJ/JLM
 IPP Rev:C 07-02-23 Added SS Wearplates & Gaskets JLM
 IPP Rev:D 07-12-06 replace NAS1515H3L to D3672-1 DD
 IPP Rev:E 08-04-17 as per PAR 08-015 DD verified by:EC
 IPP Rev:F 08-06-02 add comment DD verified by:EC
 IPP Rev:G 08-10-09 revise details DD verified by:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D2600-1-190

Manufactured

No

110

Each

34.4000

1

1



Extrusion Round 3" 206

Location

Loc Qty

Loc Code

HALL

34.4

59874

34.4

D3285-1

Manufactured

No

110

Each

110.0000

1

1



Cap

Location

Loc Qty

Loc Code

LG002

110

52511

63

52647

47

D3282-041

Manufactured

No

150

Each

9.0000

1

1



Float Web (206L/407)

Location

Loc Qty

Loc Code

LG

9

65293

2

66363

7

69716

① 11-5-26

BB 11/06/06

1

①

BB 11/08/09

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Start Date: 5/11/2011

Required Date: 6/6/2011

Start Qty: 1.00

Required Qty: 1.00

D2649 Manufactured No 190 Each 199.0000 12 12



Cross Bolt Spacer

Location Loc Qty Loc Code

LG	85	
68224	85	
LG001	114	
65317	1	
68507	113	



BE 11/08/10
B 71355 x12

D3275-1 Manufactured No 190 Each 262.0000 12 12



Crossbolt Spacer

Location Loc Qty Loc Code

LG	71	
67767	71	
LG002	191	
66109	11	
66930	108	
68946	72	



BE 11/08/10
B 70688 x12

CR3212-4-03 Purchased No 250 Each 1,254.000 2 2



Cherry Rivet

Location Loc Qty Loc Code

FP-B	16	
110139	16	
ST311	1238	
114859 ✓	1238	



m, 11/08/11

2x

Wednesday, May 11, 2011 10:33:28 AM

Shop Packet Print

Page 2

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Start Date: 5/11/2011

Required Date: 6/6/2011

Start Qty: 1.00

Required Qty: 1.00

D3415-041

Manufactured No

250 Each

68.0000

1

1



Nut Plate

Location

Loc Qty

Loc Code

ST053

68

33842 ✓

24

67605

44



M-L 11/08/11

IX

CCR264SS3-3

Purchased No

250 Each

139.0000

2

2



Cherry Rivet

Location

Loc Qty

Loc Code

FP-B

2

113973

2

ST311

137

113973 ✓

2

117086

135



M-L 11/08/11

2X

ALS4-1032-130

Purchased No

250 Each

1,000.000

78

78



Insert

Location

Loc Qty

Loc Code

ST281

1000

117331

1000

M118237



M-L 11/08/11

78X

D3536-15

Manufactured No

270 Each

25.0000

1

1



Gasket

Location

Loc Qty

Loc Code

FP011

25

66559 ✓

25



M-L 11/08/11

IX

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Work Order ID: 69451

Parent Item: D206-642-541

Parent Item Name: Replacement Skidtube

Start Date: 5/11/2011

Required Date: 6/6/2011

Start Qty: 1.00

Required Qty: 1.00

D3536-23 Manufactured No

270

Each

23.0000

1

1



Gasket

Location

Loc Qty

Loc Code

FP011

23

43406

1

53468

1

66560

21

69902

m-l 11/08/11

1x

D3536-35 Manufactured No

270

Each

17.0000

1

1



Gasket

Location

Loc Qty

Loc Code

FP012

17

66237

5

67599

12

69755

m-l 11/08/11

1x

D3536-39 Manufactured No

270

Each

17.0000

1

1



Gasket

Location

Loc Qty

Loc Code

FP015

17

63578

5

66241

12

17.0000

m-l 11/08/11

1x

D3535-15 Manufactured No

270

Each

19.0000

1

1



Wearshoe

Location

Loc Qty

Loc Code

FP018

19

66558

12

68358

7

m-l 11/08/11

1x

Wednesday, May 11, 2011 10:33:29 AM

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Page 4

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Wednesday, May 11, 2011 10:33:29 AM

Page 5

Work Order ID: 69451

Parent Item: D206-642-541



Parent Item Name: Replacement Skidtube

Start Date: 5/11/2011



Required Date: 6/6/2011

Start Qty: 1.00



Required Qty: 1.00

D3535-35 Manufactured No 270 Each 21.0000 1 1
  *m-l 11/08/11*
 Wearshoe



Location	Loc Qty	Loc Code
FP018	21	69756
65926	3	
67598	8	
68348	10	

D3535-39 Manufactured No 270 Each 12.0000 1 1
  *m-l 11/08/11*
 Wearshoe

Location	Loc Qty	Loc Code
FP018	12	12
64076 ✓	12	

D3535-23 Manufactured No 270 Each 31.0000 1 1
  *m-l 11/08/11*
 Wearshoe

Location	Loc Qty	Loc Code
FP021	31	70818
66236	5	
67594	13	
68342	13	

D3537-3 Manufactured No 270 Each 13.0000 1 1
  *m-l 11/08/11*
 Wearpad

Location	Loc Qty	Loc Code
FP017	13	72687
35697	1	
66230	12	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Wednesday, May 11, 2011 10:33:29 AM

Page 6

Work Order ID: 69451

Parent Item: D206-642-541

Parent Item Name: Replacement Skidtube

Start Date: 5/11/2011

Required Date: 6/6/2011

Start Qty: 1.00

Required Qty: 1.00

D3537-1 Manufactured No

270

Each

56.0000

9

9



Wearpad



m-l 11/08/11

Location

Loc Qty

Loc Code

FP017

56

63313

2

66135

2

66804

48

66935

4

71574

9x

AN960C10L NAS1149C0332 Purchased No

270

Each

0.0000

80

80



washer

m 118306



80x

m-l 11/08/11

AN960C416 NAS1149C0463 Purchased No

270

Each

0.0000

1

1



washer

m 115358



1x

m-l 11/08/11

D3672-1 Manufactured No

270

Each

1,371.000

2

2



Phenolic Washer



m-l 11/08/11

Location

Loc Qty

Loc Code

FP-A

21

52505

21

ST074

1350

64177

850

66821

500

2x

*

NAS1515H3L m113362

Wednesday, May 11, 2011 10:33:29 AM

Shop Packet Print

Page 6

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Wednesday, May 11, 2011 10:33:29 AM

Page 7

Work Order ID: 69451

Parent Item: D206-642-541

Parent Item Name: Replacement Skidtube

Start Date: 5/11/2011

Required Date: 6/6/2011

Start Qty: 1.00

Required Qty: 1.00

AN3C4A Purchased No 270 Each 1,662.000 80 80



BOLT

Location

Loc Qty

Loc Code

ST350

1662

M118012

80x

117094

964

117313

698

AN4C5A Purchased No 270 Each 532.0000 1 1



BOLT

Location

Loc Qty

Loc Code

FP-B

116

112243 ✓

116

1x

ST345

416

112243

416

D2646 Manufactured No 270 Each 42.0000 1 1



Aft Cap

Location

Loc Qty

Loc Code

FP006

41

62678

41

FP-4

1

69019

1

68280

1x

Wednesday, May 11, 2011 10:33:30 AM

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Page 7

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Wednesday, May 11, 2011 10:33:30 AM

Page 8

Work Order ID: 69451

Parent Item: D206-642-541

Parent Item Name: Replacement Skidtube

Start Date: 5/11/2011

Required Date: 6/6/2011

Start Qty: 1.00

Required Qty: 1.00

D3413-1

Manufactured No

270 Each

36.0000

1

1



Ring



m-p 11/08/11

Location

Loc Qty

Loc Code

ST420

19

62961 ✓

8

66387

11

ST473

17

65294

3

66945

14

IX

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



DESIGN CP	DRAWN BY PH	DART AEROSPACE USA, INC. PORT HADLOCK, WA	
CHECKED [Signature]	APPROVED [Signature]	DRAWING NO. D3274	REV. D SHEET 1 OF 4
DATE 06.12.19		TITLE SKIDTUBE ASSEMBLY SCALE NTS	
A	04.03.15	NEW ISSUE	
B	04.08.09	MOVE SADDLE HOLE: 42.14 WAS 42.76	
C	05.03.16	ADD -043; NEW INSERTS	
D	06.12.19	NEW INSERTS, SS WEARSHOE + GASKET	

RELEASED
07.02.12
DEO ATTACHED

Qty -041	Qty -043	Part Number	Description
X		D3274-041	SKIDTUBE ASSEMBLY
	X	D3274-043	SKIDTUBE ASSEMBLY
1	1	D2600-1-240	EXTRUSION
1	1	D2646	AFT CAP
12	12	D2649	CROSS BOLT SPACER
12	37	D3275-1	CROSS BOLT SPACER
1	1	D3282-041	FLOAT WEB
1	1	D3285-1	CAP
1	1	D3413-1	RING
1	1	D3415-041	NUT PLATE
1	1	D3535-15	WEARSHOE
1	1	D3535-23	WEARSHOE
1	1	D3535-35	WEARSHOE
1	1	D3535-39	WEARSHOE
1	1	D3536-15	GASKET
1	1	D3536-23	GASKET
1	1	D3536-35	GASKET
1	1	D3536-39	GASKET
9	9	D3537-1	WEARPAD
1	1	D3537-3	WEARPAD
78	78	ALS7-1032-130	INSERT (or AKS4-1032-130, ALS4-1032-130, AELS-1032-130)
80	80	AN3C4A	BOLT
1	1	AN4C5A	BOLT
1	1	AN960C416	WASHER
80	80	AN960C10L	WASHER
2	2	CCR264SS3-3	RIVET
2	2	CR3212-4-03	RIVET
2	2	NAS1515H3L	WASHER

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 69451

PH-054

GENERAL NOTES:

1. TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
2. DAMAGE TOLERANCE ON FWD BEND:
THERE SHOULD BE NO VISIBLE WRINKLES IN THE BEND FROM THE GROUND TO A HEIGHT OF 7 INCHES ABOVE THE GROUND. IT IS ACCEPTABLE TO POLISH OUT GOUGES UP TO 0.020 DEEP IN THE BENT PORTION OF THE TUBE. A MAXIMUM REDUCTION IN DIAMETER OF 0.150" IS ACCEPTABLE IN THE BENT PORTION OF THE TUBE.
3. ALL HOLES DRILLED ON CENTERLINES.
4. BOND D3282-041 FLOAT WEB INTO D3274-1/-3 OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241/291 ADHESIVE PER DART QSI 015. ENSURE HOLES LINE-UP.
5. WELDING TO BE DONE PER DART QSI 004.
6. FINISH: - ACID ETCH, ALODINE ASSEMBLY PER DART QSI 005 4.1
- POWDER COAT WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3
7. DRILL Ø0.297 HOLES FOR ALS7-1032-130 INSERTS USING DT3274-1T2 BEFORE FINISH. INSTALL ALS7-1032-130 INSERTS AFTER FINISH. SEAL WEARSHOE BOLTS WITH SIKAFLEX -241/-291.
8. SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

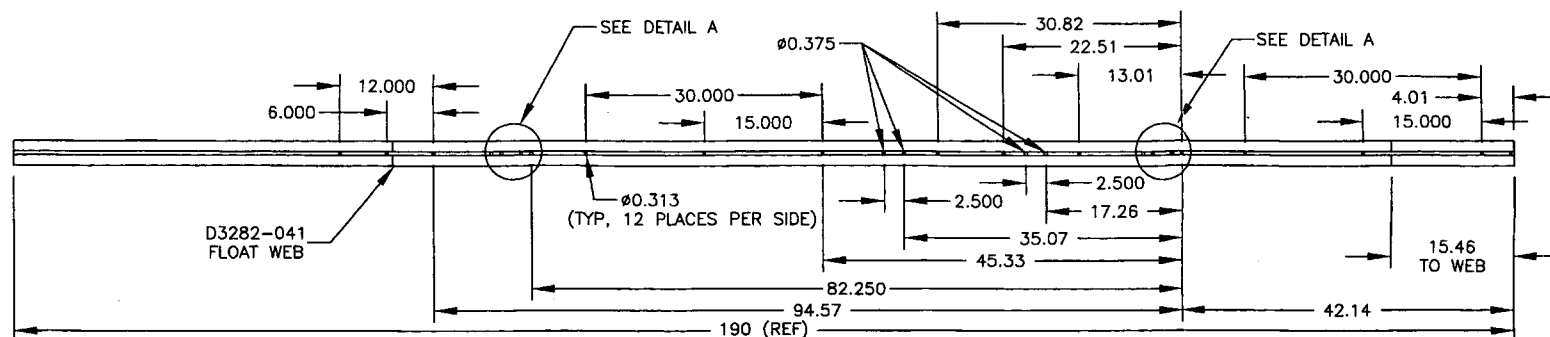
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Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

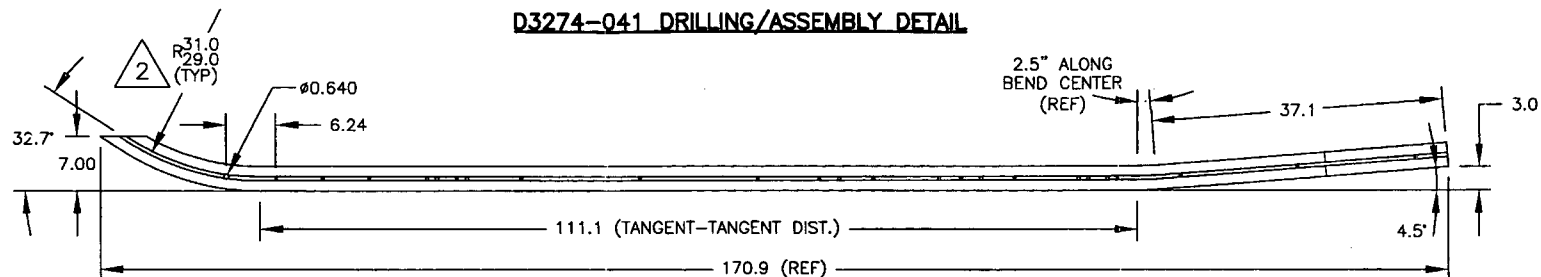
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

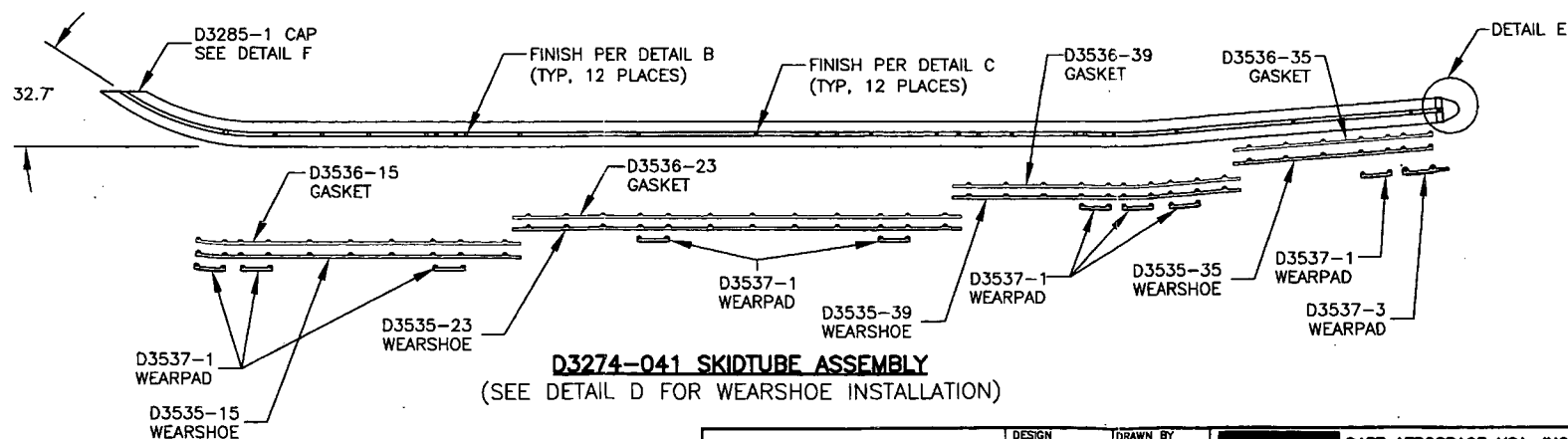
DEO ATTACHED



D3274-041 DRILLING/ASSEMBLY DETAIL



D3274-041 BEND/DRILLING DETAIL



D3274-041 SKIDTUBE ASSEMBLY
(SEE DETAIL D FOR WEARSHOE INSTALLATION)

RELEASED

07.02.12

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		CHECKED	APPROVED	TITLE SKIDTUBE ASSEMBLY	SCALE 1:15
		DATE			
		06.12.19			

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

WLB 69451



07.02.12

DART		DART AEROSPACE USA, INC. PORT HADLOCK, WA	
DRAWING NO. D3274		REV. D SHEET 3 OF 4	
TITLE SKIOTUBE ASSEMBLY		SCALE 1:15	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

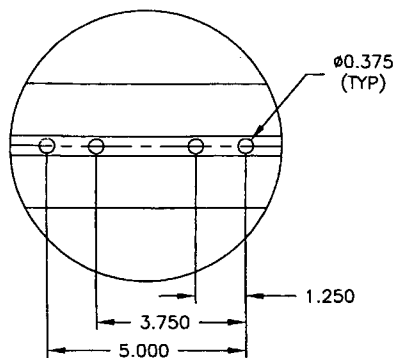
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

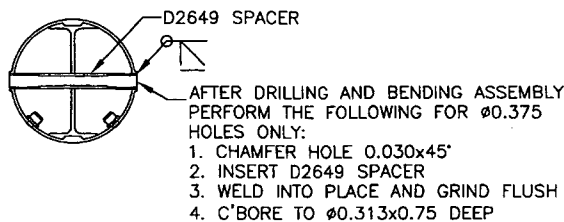
NOTE: Date & initial all entries

WLB 19451

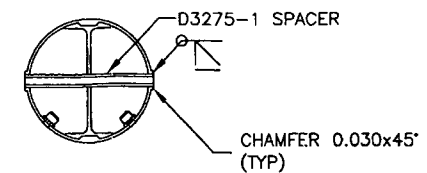
DETAIL A: DRILL DETAIL



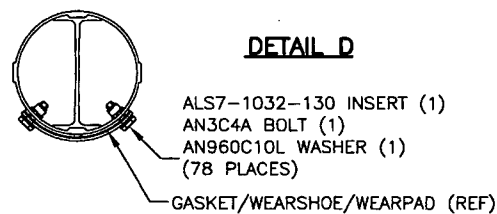
DETAIL B FOR 0.375 HOLES ONLY



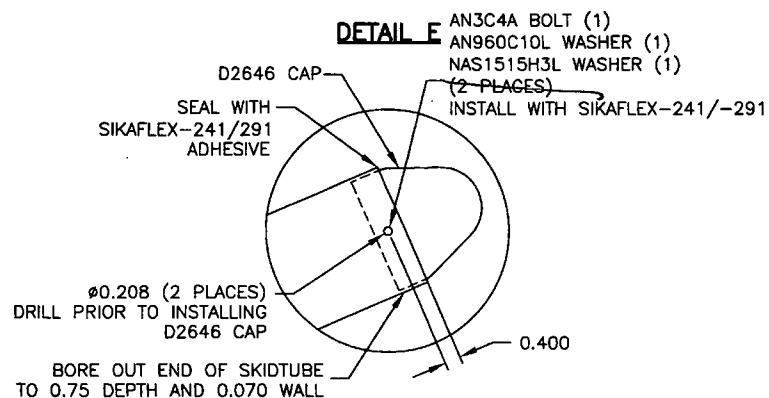
DETAIL C FOR 0.313 HOLES ONLY



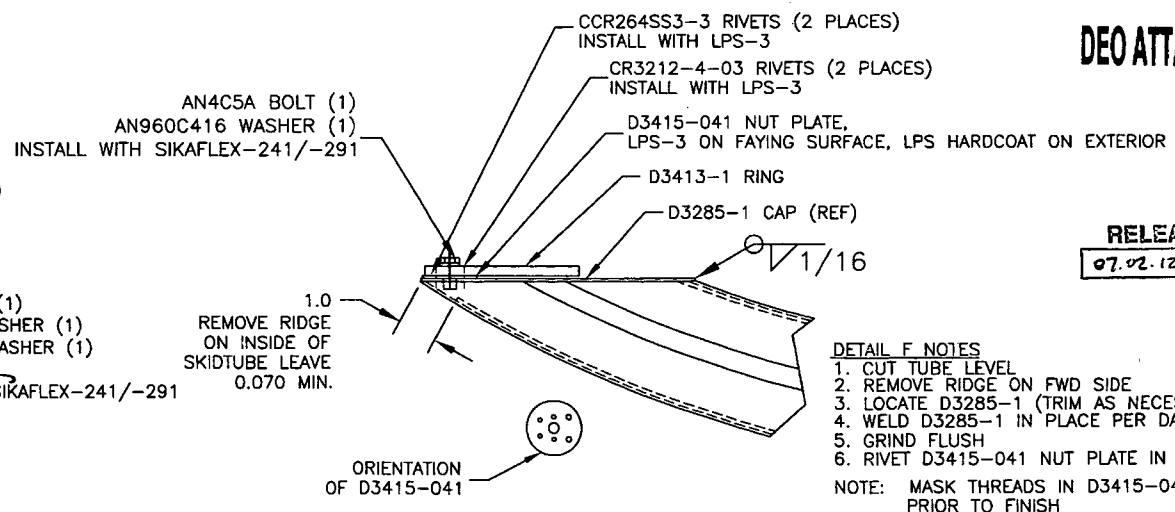
DETAIL D



DETAIL E



DETAIL F: END FINISHING DETAIL



DEO ATTACHED

RELEASED
07.02.12

- DETAIL F NOTES**
1. CUT TUBE LEVEL
 2. REMOVE RIDGE ON FWD SIDE
 3. LOCATE D3285-1 (TRIM AS NECESSARY)
 4. WELD D3285-1 IN PLACE PER DART QSI 004
 5. GRIND FLUSH
 6. RIVET D3415-041 NUT PLATE IN PLACE
- NOTE: MASK THREADS IN D3415-041 PRIOR TO FINISH

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		DATE	06.12.19	TITLE		SKIDTUBE ASSEMBLY	SCALE 1:3

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

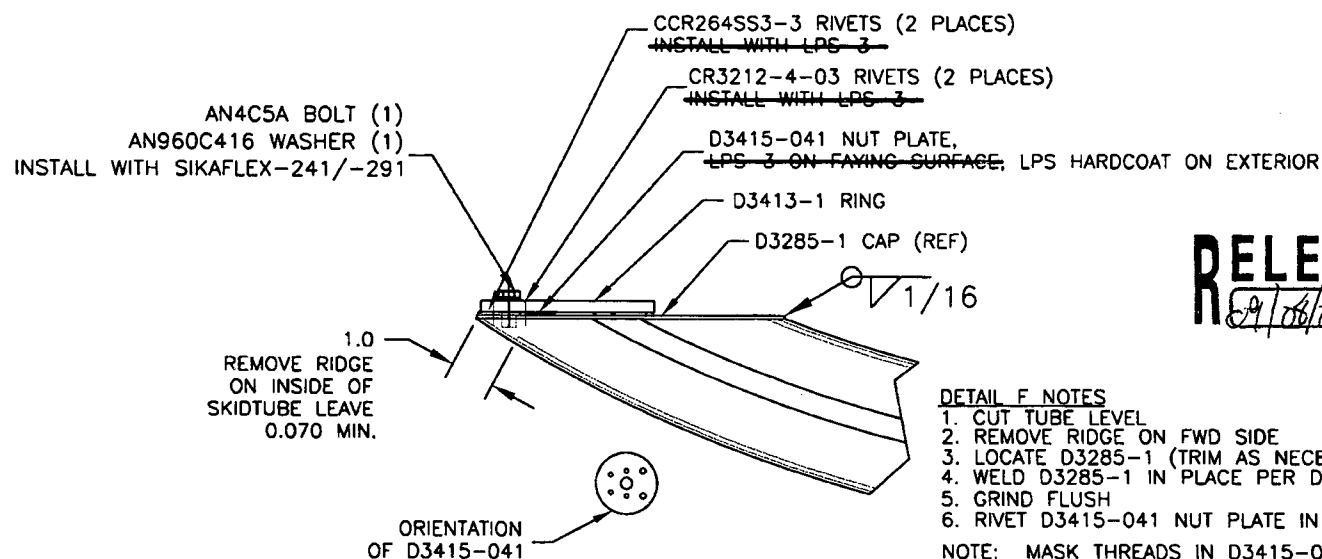
DRAWING NO. D3274	TITLE SKIDTUBE ASSEMBLY	REV. D	DART AEROSPACE USA, INC ENGINEERING ORDER	D.E.O. NO. D3274-D-1	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN <i>UP</i>	CHECKED <i>[Signature]</i>	MFG. APPR. <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DE APPR. <i>[Signature]</i>		
DATE 09.06.17	DATE 09.06.23	DATE 09/06/23	DATE 09/06/23	DATE 09.06.23		

LPS-3 IS NO LONGER USED DURING ASSEMBLY OF SKIDTUBE.

AMEND NOTE 8: ~~"SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES 'LPS 3' AFTER FINISH AND INSTALLATION OF INSERTS.~~
COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES 'LPS PROCYON' AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF
POWDER COATING WITH MEK DEGREASER."

AMEND DETAIL F AS SHOWN:

DETAIL F: END FINISHING DETAIL



DETAIL F NOTES

1. CUT TUBE LEVEL
2. REMOVE RIDGE ON FWD SIDE
3. LOCATE D3285-1 (TRIM AS NECESSARY)
4. WELD D3285-1 IN PLACE PER DART QSI 004
5. GRIND FLUSH
6. RIVET D3415-041 NUT PLATE IN PLACE

NOTE: MASK THREADS IN D3415-041
PRIOR TO FINISH

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

NO. 255

AWS D17.1.2001

QUALIFICATION TEST RECORD

Name: Barclay Elliot
Job number: 69953
Part number: 3206-642-341
Description: 206
Welding Process: Tig ☒ Mig ☐
Base material: _____
Current: AC ☒ DC ☐

TEST REQUIREMENTS AND RESULTS

Visual: pass ☒ fail ☐
Penetration: pass ☒ fail ☐

UNACCEPTABLE

Cracks: pass ☒ fail ☐
Undercut: pass ☒ fail ☐
Pin holes: pass ☒ fail ☐
Overlap (cold lap): pass ☒ fail ☐
Porosity (surface): pass ☒ fail ☐
Coloration: pass ☒ fail ☐

Qualifier Ray Lewis Date of Test Coupon 11.06.14
Welder Barclay Elliot Date of Test Coupon 11/06/14

The above named individual is qualified in accordance with AWS D17.1.2001 to weld